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MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Federal Mogul Corporation
2845 West State Road 28
Frankfort, Indiana 46041**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 023-12906-00003	
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: January 6, 2003 Expiration Date: January 6, 2008

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary plant manufacturing oil seals for the automotive industry.

Authorized Individual: Jeff Michael, Environmental Manager
Source Address: 2845 West State Road 28, Frankfort, Indiana 46041
Mailing Address: 2845 West State Road 28, Frankfort, Indiana 46041
General Source Phone: 765-654-8761
SIC Code: 3053
County Location: Clinton
Source Location Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, under PSD Rules

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) one (1) phoscoating adhesive dip tank line, constructed in 1986 and modified in 1995, consisting of sixteen (16) stations with the following units:
 - (1) Station 1 - Load/Unload;
 - (2) Station 2 - one (1) forced air adhesive dryer tank, exhausting through stack E3;
 - (3) Station 3 - one (1) Y-70 adhesive dip tank, with a maximum throughput of 5,445 units per hour, exhausting through stack E3;
 - (4) Station 4 - one (1) Y-68 adhesive dip tank, with a maximum throughput of 3,705 units per hour, exhausting through stack E3;
 - (5) Station 5 - one (1) Y-39 adhesive dip tank, with a maximum throughput of 850 units per hour, exhausting through stack E3;
 - (6) Station 6 - one (1) forced air phosphate dryer tank, exhausting through stack E3;
 - (7) Station 7 - one (1) caustic cleaner dip tank, exhausting through stack E4;
 - (8) Station 8 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (9) Station 9 - one (1) caustic cleaner dip tank, exhausting through stack E4;
 - (10) Station 10 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (11) Station 11 - one (1) acid pickle dip tank, exhausting through stack E4;
 - (12) Station 12 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (13) Station 13 - one (1) sealer dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4;
 - (14) Station 14 - one (1) cold water rinse dip tank, exhausting through stack E4;
 - (15) Station 15 - one (1) calcium modified zinc phosphate dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4; and
 - (16) Station 16 - one (1) zinc phosphate dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4.
- (b) one (1) surface coating spray booth, identified as Redicoat Booth, for paint and primer application, constructed in 1986, utilizing an electrostatic disc spray coating application system, with a maximum throughput of 10,000 units per hour, using dry filters for particulate matter control, exhausting through stack E2;

- (c) one (1) surface coating spray booth, identified as E8, utilizing a High Volume Low Pressure (HVLP) spray coating application system, with a maximum throughput of 114 units per hour, using dry filters for particulate matter control, exhausting through stack E8 (Note: this unit has not yet been installed; potential emissions are at exempt levels pursuant to 326 IAC 2-1.1-3);
- (d) one (1) Redicoat disc washer, with a maximum throughput of 0.125 units per hour, exhausting through stack GV;
- (e) two (2) parts washers, identified as PW1 and PW2, with a total maximum solvent usage rate of 220 gallons per year;
- (f) one (1) hot oil dip tank, using a maximum of 2.89 gallons of oil per hour;
- (g) The following natural gas combustion sources:
 - (1) six (6) space heaters, identified as H1 through H5, each rated at 0.200 million British thermal units (MMBtu) per hour;
 - (2) one (1) space heater, identified as H6, rated at 0.250 MMBtu per hour;
 - (3) one (1) radiant heater, identified as H7, rated at 0.100 MMBtu/hr;
 - (4) two (2) radiant heaters, identified as H8 and H9, each rated at 0.150 MMBtu/hr;
 - (5) one (1) unit heater, identified as H10, rated at 0.050 MMBtu/hr;
 - (6) two (2) duct heaters, identified as H11 and H12, each rated at 0.250 MMBtu/hr;
 - (7) one (1) unit heater, identified as H13, rated at 0.100 MMBtu/hr;
 - (8) one (1) unit heater, identified as H14, rated at 0.165 MMBtu/hr;
 - (9) one (1) unit heater, identified as H15, rated at 0.125 MMBtu/hr;
 - (10) seven (7) space heaters, identified as H16, H17, and H19 through H23, each rated at 1.875 MMBtu/hr;
 - (11) two (2) make-up air units, identified as H18 and H24, each rated at 0.500 MMBtu/hr;
 - (12) one (1) space heater, identified as H25, rated at 0.236 MMBtu/hr;
 - (13) one (1) space heater, identified as H26, rated at 0.860 MMBtu/hr;
 - (14) one (1) make-up air unit, identified as H27, rated at 0.490 MMBtu/hr;
 - (15) one (1) make-up air unit, identified as H28, rated at 3.800 MMBtu/hr;
 - (16) one (1) make-up air unit, identified as H29, rated at 5.400 MMBtu/hr;
 - (17) one (1) package unit, identified as H30, rated at 0.087 MMBtu/hr;
 - (18) one (1) package unit, identified as H31, rated at 0.120 MMBtu/hr;
 - (19) one (1) make-up air unit, identified as H32, rated at 1.750 MMBtu/hr;
 - (20) two (2) space heaters, identified as H33 and H34, each rated at 0.200 MMBtu/hr;
 - (21) two (2) radiant heaters, identified as H35 and H38, each rated at 0.250 MMBtu/hr;
 - (22) one (1) make-up air unit, identified as H36, rated at 3.456 MMBtu/hr;
 - (23) one (1) make-up air unit, identified as H37, rated at 2.200 MMBtu/hr;
 - (24) one (1) paint drying oven, identified as PO1, rated at 0.404 MMBtu/hr;
 - (25) eight (8) rubber post-cure ovens, identified as PC2 through PC6, PC8, PC9, and PC11, each rated at 1.2 MMBtu/hr;
 - (26) nine (9) catalytic oxidizers, identified as CO2 through CO10, each rated at 0.075 MMBtu/hr;
 - (27) one (1) boiler, identified as B1, constructed in 1978, rated at 4.2 MMBtu/hr;
 - (28) one (1) boiler, identified as B2, constructed in 1985, rated at 2.1 MMBtu/hr; and
 - (29) one (1) wastewater evaporator unit, identified as EV1, rated at 0.395 MMBtu/hr.
- (h) four (4) electric rubber post-cure ovens, all identified as PC10;
- (i) one (1) rubber manufacturing process, identified as the Banbury operation, constructed in 1986, with a maximum rubber production capacity of 3,914,192.15 pounds per year, consisting of the following:
 - (1) bulk rubber chemical bins, with a maximum throughput of 206.19 pounds of powdered chemical per hour, with one (1) baghouse (BH5) for particulate matter controls, exhausting through stack BH5;
 - (2) the Minors area, with one (1) baghouse (BH4) for particulate matter control, exhausting through stack BH4;

- (3) rubber compounding, with one (1) baghouse (BH1) for particulate matter control, exhausting through stack BH1; and
 - (4) one (1) rubber molding sandblasting unit, with one (1) baghouse (BH2) for particulate matter control, exhausting through stack BH2.
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- (j) one (1) tooling and machining sandblasting unit, with one (1) baghouse (BH3) for particulate matter control, exhausting through stack BH3;
 - (k) one (1) TIG welding station and one (1) stick welding station used for maintenance purposes only;
 - (l) one (1) oxyacetylene cutting station utilizing oxymethane and oxyacetylene gas with a maximum metal consumption rate of 0.4 inches per minute;
 - (m) one (1) 3,000 gallon isopropanol bulk storage tank, identified as T002; and
 - (n) one (1) 3,000 gallon used oil bulk storage tank, identified as T003.

SECTION B GENERAL CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]

This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

B.5 Modification to Permit [326 IAC 2]

All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of operating permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

B.7 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

B.8 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.9 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)] [IC 13-14-2-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

B.11 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [40 CFR 52 Subpart P][326 IAC 6-3-2]

- (a) Pursuant to 40 CFR 52 Subpart P, the allowable particulate matter emissions rate from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.5 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-7-1(34).

- (e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited, pursuant to the provisions of 40 CFR 61, Subpart M, is federally enforceable.

Testing Requirements

C.6 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.7 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

Compliance Monitoring Requirements

C.8 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.9 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.10 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected emissions unit while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (j) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.11 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.12 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when operation begins.

C.13 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Facility Description:

- (a) one (1) phoscoating adhesive dip tank line, constructed in 1986 and modified in 1995, consisting of sixteen (16) stations with the following units:
- (1) Station 1 - Load/Unload;
 - (2) Station 2 - one (1) forced air adhesive dryer tank, exhausting through stack E3;
 - (3) Station 3 - one (1) Y-70 adhesive dip tank, with a maximum throughput of 5,445 units per hour, exhausting through stack E3;
 - (4) Station 4 - one (1) Y-68 adhesive dip tank, with a maximum throughput of 3,705 units per hour, exhausting through stack E3;
 - (5) Station 5 - one (1) Y-39 adhesive dip tank, with a maximum throughput of 850 units per hour, exhausting through stack E3;
 - (6) Station 6 - one (1) forced air phosphate dryer tank, exhausting through stack E3;
 - (7) Station 7 - one (1) caustic cleaner dip tank, exhausting through stack E4;
 - (8) Station 8 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (9) Station 9 - one (1) caustic cleaner dip tank, exhausting through stack E4;
 - (10) Station 10 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (11) Station 11 - one (1) acid pickle dip tank, exhausting through stack E4;
 - (12) Station 12 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (13) Station 13 - one (1) sealer dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4;
 - (14) Station 14 - one (1) cold water rinse dip tank, exhausting through stack E4;
 - (15) Station 15 - one (1) calcium modified zinc phosphate dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4; and
 - (16) Station 16 - one (1) zinc phosphate dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4.
- (b) one (1) surface coating spray booth, identified as Redicoat Booth, for paint and primer application, constructed in 1986, utilizing an electrostatic disc spray coating application system, with a maximum throughput of 10,000 units per hour, using dry filters for particulate matter control, exhausting through stack E2;
- (c) one (1) surface coating spray booth, identified as E8, utilizing a High Volume Low Pressure (HVLP) spray coating application system, with a maximum throughput of 114 units per hour, using dry filters for particulate matter control, exhausting through stack E8 (Note: this unit has not yet been installed; potential emissions are at exempt levels pursuant to 326 IAC 2-1.1-3);
- (d) one (1) Redicoat disc washer, with a maximum throughput of 0.125 units per hour, exhausting through stack GV;
- (e) two (2) parts washers, identified as PW1 and PW2, with a total maximum solvent usage rate of 220 gallons per year;
- (f) one (1) hot oil dip tank, using a maximum of 2.89 gallons of oil per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) Limitations [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, the owner or operator shall not allow the discharge into the atmosphere VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as applied to metal parts in the adhesive dip tank line, and delivered to the applicators at each of the Redicoat spray booth and the new spray booth, identified as E8.

D.1.2 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

D.1.3 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the Permittee shall comply with the following requirements for the two (2) parts washers (PW1 and PW2):

- (a) Equip each cleaner with a cover;
- (b) Equip each cleaner with a emissions unit for draining cleaned parts;
- (c) Close each degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.1.4 Particulate [326 IAC 6-3-2(d)]

- (a) Particulate from the surface coating in the Redicoat booth and the new surface coating spray booth, identified as E8, shall be controlled by a dry particulate filter, waterwash or an equivalent control device, and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (b) If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:
 - (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
 - (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (c) If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

D.1.5 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for this emissions unit and any control devices.

Compliance Determination Requirements

D.1.6 Volatile Organic Compounds (VOC)[326 IAC 8-1-2] [326 IAC 8-1-4]

Compliance with the VOC content contained in condition D.1.1 for the Redicoat spray booth and the new spray booth, identified as E8, shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.7 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in condition D.1.1 for the adhesive dip tank line shall be determined pursuant to 326 IAC 8-1-2(a)(10), using a volume weighted average of coatings on a monthly basis. This volume weighted average shall be determined by the following equation:

$$A = [\sum C_i \times U_i] / \sum U_i$$

Where:

A = the volume weighted average in pounds VOC per gallon less water as applied;

C_i = the VOC content of each coating in pounds VOC per gallon less water as applied

= [coating density, lb/gal * wt. % organics] / [1 - vol. % water * coating density lb/gal / density of water lb/gal]

U_i = the usage rate of each coating in gallons per month.

Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.8 Record Keeping Requirements

- (a) To document compliance with condition D.1.1, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content limit established in Condition D.1.1.
- (1) The VOC content of each coating material and solvent used less water.
 - (2) The amount of coating material and solvent used on monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (3) A log of the dates of use;
 - (4) The volume weighted average VOC content of the coatings used for each month;
 - (5) The monthly cleanup solvent usage; and
 - (6) The total VOC usage for each month.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Facility Description:

- (g) The following natural gas combustion sources:
- (1) six (6) space heaters, identified as H1 through H5, each rated at 0.200 million British thermal units (MMBtu) per hour;
 - (2) one (1) space heater, identified as H6, rated at 0.250 MMBtu per hour;
 - (3) one (1) radiant heater, identified as H7, rated at 0.100 MMBtu/hr;
 - (4) two (2) radiant heaters, identified as H8 and H9, each rated at 0.150 MMBtu/hr;
 - (5) one (1) unit heater, identified as H10, rated at 0.050 MMBtu/hr;
 - (6) two (2) duct heaters, identified as H11 and H12, each rated at 0.250 MMBtu/hr;
 - (7) one (1) unit heater, identified as H13, rated at 0.100 MMBtu/hr;
 - (8) one (1) unit heater, identified as H14, rated at 0.165 MMBtu/hr;
 - (9) one (1) unit heater, identified as H15, rated at 0.125 MMBtu/hr;
 - (10) seven (7) space heaters, identified as H16, H17, and H19 through H23, each rated at 1.875 MMBtu/hr;
 - (11) two (2) make-up air units, identified as H18 and H24, each rated at 0.500 MMBtu/hr;
 - (12) one (1) space heater, identified as H25, rated at 0.236 MMBtu/hr;
 - (13) one (1) space heater, identified as H26, rated at 0.860 MMBtu/hr;
 - (14) one (1) make-up air unit, identified as H27, rated at 0.490 MMBtu/hr;
 - (15) one (1) make-up air unit, identified as H28, rated at 3.800 MMBtu/hr;
 - (16) one (1) make-up air unit, identified as H29, rated at 5.400 MMBtu/hr;
 - (17) one (1) package unit, identified as H30, rated at 0.087 MMBtu/hr;
 - (18) one (1) package unit, identified as H31, rated at 0.120 MMBtu/hr;
 - (19) one (1) make-up air unit, identified as H32, rated at 1.750 MMBtu/hr;
 - (20) two (2) space heaters, identified as H33 and H34, each rated at 0.200 MMBtu/hr;
 - (21) two (2) radiant heaters, identified as H35 and H38, each rated at 0.250 MMBtu/hr;
 - (22) one (1) make-up air unit, identified as H36, rated at 3.456 MMBtu/hr;
 - (23) one (1) make-up air unit, identified as H37, rated at 2.200 MMBtu/hr;
 - (24) one (1) paint drying oven, identified as PO1, rated at 0.404 MMBtu/hr;
 - (25) eight (8) rubber post-cure ovens, identified as PC2 through PC6, PC8, PC9, and PC11, each rated at 1.2 MMBtu/hr;
 - (26) nine (9) catalytic oxidizers, identified as CO2 through CO10, each rated at 0.075 MMBtu/hr;
 - (27) one (1) boiler, identified as B1, constructed in 1978, rated at 4.2 MMBtu/hr;
 - (28) one (1) boiler, identified as B2, constructed in 1985, rated at 2.1 MMBtu/hr; and
 - (29) one (1) wastewater evaporator unit, identified as EV1, rated at 0.395 MMBtu/hr.
- (h) four (4) electric rubber post-cure ovens, all identified as PC10.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.2.1 Particulate Matter (PM) [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(e) (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from any facility used for indirect heating purposes which has 250 MMBtu/hr heat input or less and which began operation after June 8, 1972, shall in no case exceed 0.6 lb/MMBtu heat input. Therefore, the PM emissions from the 4.2 MMBtu per hour heat input boiler, B1, shall be limited to 0.6 pounds per MMBtu heat input.

D.2.2 Particulate Matter (PM) [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4(a) (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the 2.1 MMBtu per hour heat input boiler shall be limited to 0.6 pound per MMBtu heat input.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description:

- (i) one (1) rubber manufacturing process, identified as the Banbury operation, constructed in 1986, with a maximum rubber production capacity of 3,914,192.15 pounds per year, consisting of the following:
 - (1) bulk rubber chemical bins, with a maximum throughput of 206.19 pounds of powdered chemical per hour, with one (1) baghouse (BH5) for particulate matter controls, exhausting through stack BH5;
 - (2) the Minors area, with one (1) baghouse (BH4) for particulate matter control, exhausting through stack BH4;
 - (3) rubber compounding, with one (1) baghouse (BH1) for particulate matter control, exhausting through stack BH1; and
 - (4) one (1) rubber molding sandblasting unit, with one (1) baghouse (BH2) for particulate matter control, exhausting through stack BH2.
- (j) one (1) tooling and machining sandblasting unit, with one (1) baghouse (BH3) for particulate matter control, exhausting through stack BH3;
- (k) one (1) TIG welding station and one (1) stick welding station used for maintenance purposes only;
- (l) one (1) oxyacetylene cutting station utilizing oxymethane and oxyacetylene gas with a maximum metal consumption rate of 0.4 inches per minute;
- (m) one (1) 3,000 gallon isopropanol bulk storage tank, identified as T002; and
- (n) one (1) 3,000 gallon used oil bulk storage tank, identified as T003.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the following facilities shall be limited as shown in the table below based on the following:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Emission Unit ID	Process Weight (tons/hr)	Allowable Particulate Emissions (lb/hr)
Bulk Rubber Chemical Bins (baghouse BH-5)	0.10	0.89
Rubber Compounding (baghouse BH-1)	< 100 lbs/hr	0.551

Compliance Determination Requirements

D.3.2 Particulate Matter (PM)

In order to comply with D.3.1, the baghouses BH-5 and BH-1 for PM control shall be in operation and control emissions from the bulk rubber chemical bins and the rubber compounding process at all times that the bulk rubber chemical bins and the rubber compounding process are in operation.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Federal Mogul Corporation
Address:	2845 West State Road 28
City:	Frankfort, Indiana 46041
Phone #:	765-654-8761
MSOP #:	023-12906-00003

I hereby certify that Federal Mogul Corp. is ☒ still in operation.
☐ no longer in operation.

I hereby certify that Federal Mogul Corp. is ☒ in compliance with the requirements of MSOP 023-12906-00003.
☐ not in compliance with the requirements of MSOP 023-12906-00003.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Federal Mogul Corporation _____ PHONE NO. (765) 654-8761 _____
LOCATION: (CITY AND COUNTY) Frankfort, Clinton County _____
PERMIT NO. 023-12906 _____ AFS PLANT ID: 023-00003 _____ AFS POINT ID: _____ INSP: David Rice
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/19____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/19____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Minor Source Operating Permit

Source Name: Federal Mogul Corporation
 Source Location: 2845 West State Road 28, Frankfort, Indiana 46041
 County: Clinton
 SIC Code: 3053
 Operation Permit No.: 023-12906-00003
 Permit Reviewer: Trish Earls/EVP

On November 19, 2002, the Office of Air Quality (OAQ) had a notice published in the Frankfort Times, Inc., Frankfort, Indiana, stating that Federal Mogul Corporation had applied for a permit to operate a plant manufacturing oil seals for the automotive industry with dry filters and baghouses as air pollution control. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAQ has decided to make the following revisions to the permit (new language is bolded, deleted language is in strikeout):

1. Condition D.1.3(f) has been revised to correct a typographical error as follows:

D.1.3 Volatile Organic Compounds (VOC)

- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a ~~matter~~ **manner** that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

2. Paragraph (a)(2)(B) has been removed from condition D.1.8 since it is not necessary for this source.

D.1.8 Record Keeping Requirements

- (a) To document compliance with condition D.1.1, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content limit established in Condition D.1.1.

- (1) The VOC content of each coating material and solvent used less water.

- (2) The amount of coating material and solvent used on monthly basis.

- (A) ~~Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.~~

- (B) ~~Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvent.~~

3. The Malfunction Report in the MSOP has been revised to show David Rice as the inspector for the source.

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name: Federal Mogul Corporation
Source Location: 2845 West State Road 28, Frankfort, Indiana 46041
County: Clinton
SIC Code: 3053
Operation Permit No.: 023-12906-00003
Permit Reviewer: Trish Earls/EVP

The Office of Air Quality (OAQ) has reviewed an application from Federal Mogul Corporation relating to the operation of a plant manufacturing oil seals for the automotive industry.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) one (1) phoscoating adhesive dip tank line, constructed in 1986 and modified in 1995, consisting of sixteen (16) stations with the following units:
 - (1) Station 1 - Load/Unload;
 - (2) Station 2 - one (1) forced air adhesive dryer tank, exhausting through stack E3;
 - (3) Station 3 - one (1) Y-70 adhesive dip tank, with a maximum throughput of 5,445 units per hour, exhausting through stack E3;
 - (4) Station 4 - one (1) Y-68 adhesive dip tank, with a maximum throughput of 3,705 units per hour, exhausting through stack E3;
 - (5) Station 5 - one (1) Y-39 adhesive dip tank, with a maximum throughput of 850 units per hour, exhausting through stack E3;
 - (6) Station 6 - one (1) forced air phosphate dryer tank, exhausting through stack E3;
 - (7) Station 7 - one (1) caustic cleaner dip tank, exhausting through stack E4;
 - (8) Station 8 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (9) Station 9 - one (1) caustic cleaner dip tank, exhausting through stack E4;
 - (10) Station 10 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (11) Station 11 - one (1) acid pickle dip tank, exhausting through stack E4;
 - (12) Station 12 - one (1) hot water rinse dip tank, exhausting through stack E4;
 - (13) Station 13 - one (1) sealer dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4;
 - (14) Station 14 - one (1) cold water rinse dip tank, exhausting through stack E4;
 - (15) Station 15 - one (1) calcium modified zinc phosphate dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4; and
 - (16) Station 16 - one (1) zinc phosphate dip tank, with a maximum throughput of 10,000 units per hour, exhausting through stack E4.

- (b) one (1) surface coating spray booth, identified as Redicoat Booth, for paint and primer application, constructed in 1986, utilizing an electrostatic disc spray coating application system, with a maximum throughput of 10,000 units per hour, using dry filters for particulate matter control, exhausting through stack E2;
- (c) one (1) surface coating spray booth, identified as E8, utilizing a High Volume Low Pressure (HVLP) spray coating application system, with a maximum throughput of 114 units per hour, using dry filters for particulate matter control, exhausting through stack E8 (Note: this unit has not yet been installed; potential emissions are at exempt levels pursuant to 326 IAC 2-1.1-3);
- (d) one (1) Redicoat disc washer, with a maximum throughput of 0.125 units per hour, exhausting through stack GV;
- (e) two (2) parts washers, identified as PW1 and PW2, with a total maximum solvent usage rate of 220 gallons per year;
- (f) one (1) hot oil dip tank, using a maximum of 2.89 gallons of oil per hour;
- (g) The following natural gas combustion sources:
 - (1) six (6) space heaters, identified as H1 through H5, each rated at 0.200 million British thermal units (MMBtu) per hour;
 - (2) one (1) space heater, identified as H6, rated at 0.250 MMBtu per hour;
 - (3) one (1) radiant heater, identified as H7, rated at 0.100 MMBtu/hr;
 - (4) two (2) radiant heaters, identified as H8 and H9, each rated at 0.150 MMBtu/hr;
 - (5) one (1) unit heater, identified as H10, rated at 0.050 MMBtu/hr;
 - (6) two (2) duct heaters, identified as H11 and H12, each rated at 0.250 MMBtu/hr;
 - (7) one (1) unit heater, identified as H13, rated at 0.100 MMBtu/hr;
 - (8) one (1) unit heater, identified as H14, rated at 0.165 MMBtu/hr;
 - (9) one (1) unit heater, identified as H15, rated at 0.125 MMBtu/hr;
 - (10) seven (7) space heaters, identified as H16, H17, and H19 through H23, each rated at 1.875 MMBtu/hr;
 - (11) two (2) make-up air units, identified as H18 and H24, each rated at 0.500 MMBtu/hr;
 - (12) one (1) space heater, identified as H25, rated at 0.236 MMBtu/hr;
 - (13) one (1) space heater, identified as H26, rated at 0.860 MMBtu/hr;
 - (14) one (1) make-up air unit, identified as H27, rated at 0.490 MMBtu/hr;
 - (15) one (1) make-up air unit, identified as H28, rated at 3.800 MMBtu/hr;
 - (16) one (1) make-up air unit, identified as H29, rated at 5.400 MMBtu/hr;
 - (17) one (1) package unit, identified as H30, rated at 0.087 MMBtu/hr;
 - (18) one (1) package unit, identified as H31, rated at 0.120 MMBtu/hr;
 - (19) one (1) make-up air unit, identified as H32, rated at 1.750 MMBtu/hr;
 - (20) two (2) space heaters, identified as H33 and H34, each rated at 0.200 MMBtu/hr;
 - (21) two (2) radiant heaters, identified as H35 and H38, each rated at 0.250 MMBtu/hr;
 - (22) one (1) make-up air unit, identified as H36, rated at 3.456 MMBtu/hr;
 - (23) one (1) make-up air unit, identified as H37, rated at 2.200 MMBtu/hr;
 - (24) one (1) paint drying oven, identified as PO1, rated at 0.404 MMBtu/hr;
 - (25) eight (8) rubber post-cure ovens, identified as PC2 through PC6, PC8, PC9, and PC11, each rated at 1.2 MMBtu/hr;
 - (26) nine (9) catalytic oxidizers, identified as CO2 through CO10, each rated at 0.075 MMBtu/hr;
 - (27) one (1) boiler, identified as B1, constructed in 1978, rated at 4.2 MMBtu/hr;
 - (28) one (1) boiler, identified as B2, constructed in 1985, rated at 2.1 MMBtu/hr; and
 - (29) one (1) wastewater evaporator unit, identified as EV1, rated at 0.395 MMBtu/hr.
- (h) four (4) electric rubber post-cure ovens, all identified as PC10;

- (i) one (1) rubber manufacturing process, identified as the Banbury operation, constructed in 1986, with a maximum rubber production capacity of 3,914,192.15 pounds per year, consisting of the following:
 - (1) bulk rubber chemical bins, with a maximum throughput of 206.19 pounds of powdered chemical per hour, with one (1) baghouse (BH5) for particulate matter controls, exhausting through stack BH5;
 - (2) the Minors area, with one (1) baghouse (BH4) for particulate matter control, exhausting through stack BH4;
 - (3) rubber compounding, with one (1) baghouse (BH1) for particulate matter control, exhausting through stack BH1; and
 - (4) one (1) rubber molding sandblasting unit, with one (1) baghouse (BH2) for particulate matter control, exhausting through stack BH2.
- (j) one (1) tooling and machining sandblasting unit, with one (1) baghouse (BH3) for particulate matter control, exhausting through stack BH3;
- (k) one (1) TIG welding station and one (1) stick welding station used for maintenance purposes only;
- (l) one (1) oxyacetylene cutting station utilizing oxymethane and oxyacetylene gas with a maximum metal consumption rate of 0.4 inches per minute;
- (m) one (1) 3,000 gallon isopropanol bulk storage tank, identified as T002; and
- (n) one (1) 3,000 gallon used oil bulk storage tank, identified as T003.

Note: The following previously permitted units have been removed from the source:

- (1) two (2) drying ovens, each rated at 0.15 MMBtu/hr, exhausting to stacks PO1 and PO2 (these units were replaced with one (1) drying oven, identified as PO1, rated at 0.404 MMBtu/hr listed above);
- (2) one (1) mixer/tumbler unit with a rated capacity of 6.28 pounds per hour of Y67 adhesive applied to 600 oil seals per hour, exhausting to stack MU1;
- (3) chrome plating operations; and
- (4) the "Vydax" booth for application of mold release solvent, exhausting through stack E7.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Operation Permit No. 12-03-90-0128, issued September 15, 1986;
- (b) Operation Permit No. 12-03-94-0141, issued June 8, 1990;
- (c) Interim Construction Permit No. 023-4227-00003, issued on December 28, 1994;
- (d) CP 023-4228-00003, issued on April 11, 1995;

- (e) CP 023-4829-00003, issued December 14, 1995;
- (f) Exemption No. 023-7133-00003, issued February 3, 1997;
- (g) Administrative Amendment No. 023-8120-00003, issued July 7, 1997;
- (h) Exemption No. 023-8357-00003, issued April 30, 1997;
- (i) Administrative Amendment No. 023-8380-00003, issued May 12, 1997; and
- (j) Exemption No. 023-12585-00003, issued October 18, 2000.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
H1 - H5	Units H1 - H5	28.0	0.67	72	200
H6	Unit H6	33.0	0.67	90	200
H7	Unit H7	33.0	0.33	35	200
H8 & H9	Units H8 & H9	19.0	0.33	54	200
H10	Unit H10	19.0	0.33	18	200
H11 & H12	Units H11 & H12	20.0	0.50	90	200
H13	Unit H13	20.0	0.50	36	200
H14	Unit H14	17.0	0.42	59.4	200
H15	Unit H15	17.0	0.33	45	200
H16	Unit H16	33.0	0.67	675	300
H17, H19 - H23	Units H17, H19 - H23	33.0	0.80	675	300
H25	Unit H25	32.0	0.50	85	300
H26	Unit H26	54.0	0.50	309.6	250
H30	Unit H30	20.0	0.25	90	250
H31	Unit H31	20.0	0.50	43.2	250
PO1	Unit PO1	26.0	2.20	3,650	385
E2	Redicoat Booth	36.0	1.0	2,500	70
E3	Stations 2 - 6	55.0	38" x 32"	31,700	70
E4	Stations 7 - 16	46.0	2.33	31,700	70
BH-2	Baghouse BH-2	N/A	N/A	1,600	70
BH-3	Baghouse BH-3	26.0	0.67	90	70

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on October 27, 2000, with additional information received on December 20, 2000, April 20, 2001, August 9, 2001, September 11, 2001, May 28, 2002, June 7, 2002, June 14, 2002, June 25, 2002, July 15, 2002, and August 1, 2002.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (8 pages).

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	16.89
PM-10	18.23
SO ₂	0.14
VOC	84.24
CO	19.64
NO _x	23.38

HAP's	Potential To Emit (tons/year)
Methanol	less than 10
MEK	less than 10
Glycol Ether	less than 10
Hexane	less than 10
TOTAL	less than 25

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all pollutants are less than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1.
- (b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Clinton County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Clinton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Clinton County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	< 100
PM10	< 100
SO ₂	< 100
VOC	< 100
CO	< 100
NO _x	< 100

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the permit application submitted for this permit and past permits issued to the source.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

- (b) The one (1) boiler (B1), constructed in 1978, is not subject to the requirements of the New Source Performance Standard (NSPS), 326 IAC 12, 40 CFR 60.40 through 60.46, Subpart D or 40 CFR 60.40a through 60.49a, Subpart Da because the boiler has a maximum heat input capacity of less than 250 MMBtu per hour.
- (c) The one (1) boiler (B2), constructed in 1985, is not subject to the requirements of the New Source Performance Standard (NSPS), 326 IAC 12, 40 CFR 60.40b through 60.49b, Subpart Db because the boiler has a maximum heat input capacity of less than 100 MMBtu per hour.
- (d) The one (1) 3,000 gallon isopropanol bulk storage tank and one (1) 3,000 gallon used oil bulk storage tank, identified as T002 and T003, are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.110b, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels" because each tank has a storage capacity less than 40 m³.
- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 61) applicable to this source.
- (f) The two (2) parts washers, which are insignificant activities, are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20, (40 CFR 63.460 through 63.468, Subpart T), because these units do not use a halogenated HAP cleaning solvent.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Clinton County and the potential to emit all pollutants is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

State Rule Applicability - Individual Facilities

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

- (a) Since the one (1) boiler, identified as B1, was constructed in 1978, prior to September 21, 1983, and is located in Clinton County, it is subject to the requirements of 326 IAC 6-2-3. Pursuant to this rule, particulate emissions from indirect heating facilities existing and in operation before September 21, 1983, shall be limited by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

$$Pt = \frac{50 \times 0.67 \times 20}{76.5 \times 4.2^{0.75} \times 2^{0.25}} = 2.5 \text{ lb/MMBtu}$$

The allowable particulate emission rate from the 4.2 MMBtu per hour boiler, B1, based on the above equation, is 2.5 pounds per MMBtu heat input. However, pursuant to 326 IAC 6-2-3(e), particulate emissions from any facility used for indirect heating purposes which has 250 MMBtu/hr heat input or less and which began operation after June 8, 1972, shall in no case exceed 0.6 lb/MMBtu heat input. Therefore, since the boiler, B1, has a maximum heat input capacity of less than 250 MMBtu/hr and was constructed after June 8, 1972, particulate emissions shall not exceed 0.6 lb/MMBtu. The boiler, B1, emits a maximum of 0.01 pound of PM per MMBtu heat input, therefore, the boiler, B1, is in compliance with 326 IAC 6-2-3 (see page 4 of Appendix A).

- (b) Since the one (1) boiler, identified as B2, was constructed in 1985, after September 21, 1983, and is located in Clinton County, it is subject to the requirements of 326 IAC 6-2-4. Pursuant to this rule, particulate emissions from indirect heating facilities shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

$$Pt = \frac{1.09}{6.3^{0.26}} = 0.68 \text{ lb/MMBtu}$$

Based on the above equation, the allowable particulate emission rate from the 2.1 MMBtu per hour boiler, B2, is 0.68 lb/MMBtu heat input. However, pursuant to 326 IAC 6-2-4(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu heat input. Therefore, the allowable particulate emission rate from the 2.1 MMBtu per hour boiler, B2, is 0.6 lb/MMBtu heat input. The boiler, B2, emits a maximum of 0.004 pound of PM per MMBtu heat input, therefore, the boiler, B2, is in compliance with 326 IAC 6-2-4 (see page 4 of Appendix A).

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

- (a) Particulate from the surface coating in the Redicoat booth and the new surface coating spray booth, identified as E8, shall be controlled by a dry particulate filter, waterwash or an equivalent control device, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

- (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

Each of these booths are equipped with dry filters for particulate matter control and shall operate the controls as required by this rule, therefore, they are in compliance with this rule.

- (b) Pursuant to 326 IAC 6-2-3(e), the particulate from the following facilities shall be limited as shown in the table below based on the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Emission Unit ID	Process Weight (tons/hr)	Allowable Particulate Emissions (lb/hr)	Controlled Particulate Emissions (lb/hr)	In Compliance?
Bulk Rubber Chemical Bins (baghouse BH-5)	0.10	0.89	0.01	y
Rubber Compounding (baghouse BH-1)	< 100 lbs/hr	0.551	0.12	y

The baghouses BH-5 and BH-1 shall be in operation at all times the bulk rubber chemical bins and the rubber compounding process are in operation, in order to comply with this limit.

Pursuant to 326 IAC 6-3-1(b)(5), the adhesive dip tank line, the parts washers, the disc washer, and the hot oil dip tank are not subject to this rule because they are dip coating operations.

Pursuant to 326 IAC 6-3-1(b)(9) and (10), the welding and oxyacetylene cutting operations are also exempt from the requirements of this rule because the welding operation consumes less than 625 pounds of rod or wire per day and the cutting operation cuts less than 3,400 inches per hour of stock that has a thickness of one (1) inch or less.

Pursuant to 326 IAC 6-3-1(b)(14), the Minors area, the rubber molding sandblasting unit, and the tooling and machining sandblasting unit, controlled by baghouses BH-4, BH-2, and BH-3, respectively, are exempt from this rule because they are manufacturing processes with potential uncontrolled emissions less than 0.551 pound per hour.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied in the adhesive dip tanks, and delivered to the applicators at each of the Redicoat spray booth and the new spray booth, identified as E8, shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Pursuant to Administrative Amendment No. 023-8120-00003, issued on July 7, 1997, compliance with the limits for the adhesive dip tanks were determined using the following equation:

$$\text{lb VOC/gal less water} = \frac{[\text{3coating density, lb/gal} * \text{coating usage, gal/yr} * \text{wt. \% organics}] / [1 - \text{vol. \% water} * \text{coating density, lb/gal} / \text{density of water, lb/gal}]}{[\text{3coating usage, gal/yr}]}$$

However, prior to issuance of the AA referenced above, the dip tanks were not in compliance with the VOC content limit pursuant to 326 IAC 8-2-9, and were instead subject to 326 IAC 8-1-5 pursuant to CP 023-4829-00003, issued on December 14, 1995. Under this rule, the source was required to reduce the VOC content of the coating materials used in the dip tanks to 3.5 pounds per gallon of coating. The source was given one year to comply with 326 IAC 8-2-9. Therefore, when the AA was issued, the source was required to be in compliance with 326 IAC 8-2-9 and the above equation was developed to demonstrate that they had achieved compliance one year after CP 023-4829-00003 was issued. The source will now be required to demonstrate compliance using one of the accepted methods listed in 326 IAC 8-1-2. The method listed in 326 IAC 8-1-2(a)(10) applies to dip coating operations that are subject to 326 IAC 8-2-9. Therefore, the source will be required to demonstrate compliance using a monthly volume-weighted average of all coatings applied in the dip tank line. This volume weighted average shall be determined by the following equation:

$$\text{lb VOC/gal less water} = \frac{[\text{3coating density, lb/gal} * \text{coating usage, gal/month} * \text{wt. \% organics}] / [1 - \text{vol. \% water} * \text{coating density, lb/gal} / \text{density of water, lb/gal}]}{[\text{3coating usage, gal/month}]}$$

Based on the maximum usages of each coating used in the adhesive dip tank line, the compliance calculation is as follows:

$$\begin{aligned} \text{lb VOC/gal less water} &= \frac{[8.52 \text{ lb/gal} * 1,264 \text{ gal/mo.} * 2.8\%] / [(1-89.39\%) * (8.52 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [8.42 \text{ lb/gal} * 149 \text{ gal/mo.} * 0.03\%] / [(1-97.55\%) * (8.42 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [6.64 \text{ lb/gal} * 1,413 \text{ gal/mo.} * 95.24\%] / [(1-0.13\%) * (6.64 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [10.85 \text{ lb/gal} * 26,966 \text{ gal/mo.} * 0\%] / [(1-0\%) * (10.85 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [10.85 \text{ lb/gal} * 26,966 \text{ gal/mo.} * 0\%] / [(1-0\%) * (10.85 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [11.68 \text{ lb/gal} * 14,104 \text{ gal/mo.} * 0\%] / [(1-0\%) * (11.68 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [9.16 \text{ lb/gal} * 402 \text{ gal/mo.} * 0\%] / [(1-87.97\%) * (9.16 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [12.91 \text{ lb/gal} * 1,533 \text{ gal/mo.} * 0\%] / [(1-66.64\%) * (12.91 \text{ lb/gal} / 8.3454 \text{ lb/gal})] + [12.5 \text{ lb/gal} * 65.7 \text{ gal/mo.} * 0\%] / [(1-72.03\%) * (12.5 \text{ lb/gal} / 8.3454 \text{ lb/gal})]}{72,863 \text{ gal/mo.}} \\ &= 14,044 \text{ lb/month} / 72,863 \text{ gal/month} \\ &= 0.19 \text{ lb/gallon} \end{aligned}$$

As shown above, the adhesive dip tanks are in compliance with this requirement.

Based on the MSDS submitted by the source and calculations made, the Redicoat spray booth and the new spray booth, identified as E8, are in compliance with this requirement.

326 IAC 8-3 (Organic Solvent Degreasing Operations)

Pursuant to 326 IAC 8-3-1(a)(2), the two (2) parts washers are subject to the requirements of 326 IAC 8-3-2 (Cold cleaner operation) since they were constructed after January 1, 1980. The requirements of 326 IAC 8-3-5 would only apply to the two (2) parts washers, which are cold cleaner degreasers, if they were constructed after July 1, 1990, since they are located in Clinton County, and did not have remote solvent reservoirs. The two (2) parts washers are not subject to the requirements of 326 IAC 8-3-5 because they were constructed prior to July 1, 1990. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a emissions unit for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;

- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to facilities constructed after January 1, 1980, which have potential emissions of 25 tons per year or greater of VOC, which are not otherwise regulated by other provisions of Article 8. The adhesive dip coating line, the Redicoat booth, and the spray booth, E8, are not subject to this rule because they are subject to the requirements of 326 IAC 8-2-9. The Redicoat disc washer and the hot oil dip tank are not subject to the requirements of this rule because potential VOC emissions from each unit are less than 25 tons per year. The two (2) parts washers are not subject to this rule because they are subject to the requirements of 326 IAC 8-3-2.

Conclusion

The operation of this plant manufacturing oil seals for the automotive industry shall be subject to the conditions of the attached proposed Minor Source Operating Permit 023-12906-00003.

Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Plt ID: 023-00003
Reviewer: Trish Earls/EVP
Date: August 1, 2002

Uncontrolled Potential Emissions (tons/year)								
Emissions Generating Activity								
Pollutant	Surface Coating/ Parts Washing	Hot Oil Dip Tank	Natural Gas Combustion	Sandblasting	Rubber Curing/ Compounding	Rubber Manuf. Processes	Welding	TOTAL
PM	1.85	0.00	0.44	1.48	1.53	11.58	0.01	16.89
PM10	1.85	0.00	1.78	1.48	1.53	11.58	0.01	18.23
SO2	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.14
NOx	0.00	0.00	23.38	0.00	0.00	0.00	0.00	23.38
VOC	57.22	12.46	1.29	0.00	13.27	0.00	0.00	84.24
CO	0.00	0.00	19.64	0.00	0.00	0.00	0.00	19.64
total HAPs	2.46	0.00	0.44	0.00	2.50	0.00	3.40E-04	5.40
worst case single HAP	2.25	0.00	0.42	0.00	n/a*	0.00	3.24E-04	2.25
	methanol		hexane					
Total emissions based on rated capacity at 8,760 hours/year.								
* There are no single HAP emission factors for rubber manufacturing, only total HAPs.								
Controlled Potential Emissions (tons/year)								
Emissions Generating Activity								
Pollutant	Surface Coating/ Parts Washing	Hot Oil Dip Tank	Natural Gas Combustion	Sandblasting	Rubber Curing/ Compounding	Rubber Manuf. Processes	Welding	TOTAL
PM	0.18	0.00	0.44	0.01	1.53	0.59	0.01	2.76
PM10	0.18	0.00	1.78	0.01	1.53	0.59	0.01	4.10
SO2	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.14
NOx	0.00	0.00	23.38	0.00	0.00	0.00	0.00	23.38
VOC	57.22	12.46	1.29	0.00	13.27	0.00	0.00	84.24
CO	0.00	0.00	19.64	0.00	0.00	0.00	0.00	19.64
total HAPs	2.46	0.00	0.44	0.00	2.50	0.00	3.40E-04	5.40
worst case single HAP	2.25	0.00	0.42	0.00	n/a*	0.00	3.24E-04	2.25
	methanol		hexane					
Total emissions based on rated capacity at 8,760 hours/year, after control.								

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Pit ID: 023-00003
Reviewer: Trish Earls/EVP
Date: August 1, 2001

Material	Emission Unit ID	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Adhesive Dip Tanks																	
Y70	Station 3	8.52	90.76%	87.96%	2.80%	89.39%	9.86%	0.000318	5445	2.25	0.24	0.41	9.91	1.81	0.00	2.42	100%
Y68	Station 4	8.42	96.73%	96.70%	0.03%	97.55%	3.30%	0.000055	3705	0.10	2.5E-03	5.1E-04	1.2E-02	2.2E-03	0.00	0.08	100%
Y39	Station 5	6.64	95.40%	0.16%	95.24%	0.13%	2.97%	0.002278	850	6.33	6.32	12.25	293.88	53.63	0.00	212.93	100%
Adhesive Dip Tanks - Phoscoating																	
Henkel EC 382R	Station 7	10.85	0.00%	0.00%	0.00%	0.00%	0.00%	0.003694	10000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Henkel EC 382R	Station 9	10.85	0.00%	0.00%	0.00%	0.00%	0.00%	0.003694	10000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Henkel 815	Station 11	11.68	0.00%	0.00%	0.00%	0.00%	0.00%	0.001932	10000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Detrex Rexolene 48	Station 13	9.16	80.00%	80.00%	0.00%	87.97%	20.00%	0.000055	10000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Detrex 1048 R-4	Station 15	12.91	43.00%	43.00%	0.00%	66.64%	41.00%	0.000210	10000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
16HC	Station 16	12.50	48.00%	48.00%	0.00%	72.03%	36.00%	0.000009	10000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100%
Redicoat Spray Booth																	
Aqualure Red	Redicoat Booth	8.83	61.80%	50.00%	11.80%	53.00%	33.70%	0.000013	10000	2.22	1.04	0.14	3.25	0.59	0.10	3.09	95%
Disc Washer																	
MEK	Disc Washer	6.75	100.00%	0.00%	100.00%	0.00%	0.00%	0.029800	0.125	6.75	6.75	0.03	0.60	0.11	0.00	0.00	100%
Parts Washer																	
G&G 140	PW1 and PW2	6.59	100.00%	0.00%	100.00%	0.00%	0.00%	0.025114	(gal/hr)	6.59	6.59	0.17	3.97	0.72	0.00	0.00	100%
Hot Oil Dip Tank																	
Stan-Plas 150	Hot Oil Dip Tank	7.57	13.00%	0.00%	13.00%	0.00%	87.00%	2.890000	(gal/hr)	0.98	0.98	2.84	68.26	12.46	0.00	1.13	100%
New Spray Booth																	
Aqualure Red Hub Sealer	New Spray Booth	9.00	4.78%	0.00%	4.78%	0.00%	0.00%	0.001638	114	0.43	0.43	0.08	1.93	0.35	1.75	0.00	75%
TOTAL Emissions												15.91	381.82	69.68	1.85		

PM Control Efficiency for New Spray Booth = 90.00%
PM Control Efficiency for Redicoat Spray Booth = 98.00%

TOTAL Emissions After Control: 15.91 381.82 69.68 0.18

Note: Maximum usages of Y39, Aqualure Red, and MEK represent maximum usage after subtraction of waste that is sent off-site.

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Pit ID: 023-00003
Reviewer: Trish Earls/EVP
Date: August 1, 2002

Material	Emission Unit or Stack ID	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Methanol	Weight % MEK	Weight % Glycol Ether	Methanol Emissions (ton/yr)	MEK Emissions (ton/yr)	Glycol Ether Emissions (ton/yr)
Adhesive Dip Tanks										
Y70	Station 3	8.52	0.000318	5445	0.00%	0.00%	0.00%	0.00	0.00	0.00
Y68	Station 4	8.42	0.000055	3705	0.00%	0.00%	0.00%	0.00	0.00	0.00
Y39	Station 5	6.64	0.002278	850	4.00%	0.00%	0.00%	2.25	0.00	0.00
Adhesive Dip Tanks - Phoscoating										
Henkel EC 382R	Station 7	10.85	0.003694	10000	0.00%	0.00%	0.00%	0.00	0.00	0.00
Henkel EC 382R	Station 9	10.85	0.003694	10000	0.00%	0.00%	0.00%	0.00	0.00	0.00
Henkel 815	Station 11	11.68	0.001932	10000	0.00%	0.00%	0.00%	0.00	0.00	0.00
Detrex Rexolene 48	Station 13	9.16	0.000055	10000	0.00%	0.00%	0.00%	0.00	0.00	0.00
Detrex 1048 R-4	Station 15	12.91	0.000210	10000	0.00%	0.00%	0.00%	0.00	0.00	0.00
16HC	Station 16	12.50	0.000009	10000	0.00%	0.00%	0.00%	0.00	0.00	0.00
Redicoat Spray Booth										
Aqualure Red	Redicoat Booth	8.83	0.000013	10000	0.00%	0.00%	0.00%	0.00	0.00	0.00
Disc Washer										
MEK	Disc Washer	6.75	0.02980	0.125	0.00%	100.00%	0.00%	0.00	0.11	0.00
Parts Washer										
G&G 140	PW1 and PW2	6.59	0.025114	(gal/hr)	0.00%	0.00%	0.00%	0.00	0.00	0.00
Hot Oil Dip Tank										
Stan-Plas 150	Hot Oil Dip Tank	7.57	2.890000	(gal/hr)	0.00%	0.00%	0.00%	0.00	0.00	0.00
New Spray Booth										
Aqualure Red Hub Sealer	New Spray Booth	9.00	0.001638	114	0.00%	0.00%	1.26%	0.00	0.00	0.09
TOTAL								2.25	0.11	0.09

Total HAPs: 2.46

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Pit ID: 023-00003
Reviewer: Trish Earls/EVP
Date: April 20, 2001

Unit I.D.	Heat Input Capacity		Potential Throughput MMCF/yr
	per unit MMBtu/hr	total MMBtu/hr	
H1 - H5, H33 - H34	0.200	1.400	12.264
H6	0.250	0.250	2.190
H7 and H13	0.100	0.200	1.752
H8 and H9	0.150	0.300	2.628
H10	0.050	0.050	0.438
H11 - H12, H35, H38	0.250	1.000	8.760
H14	0.165	0.165	1.445
H15	0.125	0.125	1.095
H16, H17, H19 - H23	1.875	13.125	114.975
H18 and H24	0.500	1.000	8.760
H25	0.236	0.236	2.067
H26	0.860	0.860	7.534
H27	0.490	0.490	4.292
H28	3.800	3.800	33.288
H29	5.400	5.400	47.304
H30	0.087	0.087	0.762
H31	0.120	0.120	1.051
H32	1.750	1.750	15.330
H36	3.456	3.456	30.275
H37	2.200	2.200	19.272
B1	4.200	4.200	36.792
B2	2.100	2.100	18.396
PC2 - PC6, PC8, PC9, PC11	1.200	9.600	84.096
PO1	0.404	0.404	3.539
CO2 - CO10	0.075	0.675	5.913
EV1	0.395	0.395	3.460
Total		53.388	467.679

	Pollutant					
	PM*	PM10*	SO2	NOx**	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.44	1.78	0.14	23.38	1.29	19.64

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

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HAPs Emissions

Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Pit ID: 023-00003
Reviewer: Trish Earls/EVP
Date: April 20, 2001

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.911E-04	2.806E-04	1.754E-02	4.209E-01	7.951E-04

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.169E-04	2.572E-04	3.274E-04	8.886E-05	4.911E-04

Methodology is the same as page 4.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
VOC and Particulate
From Rubber Manufacturing

Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Pit ID: 023-00003
Reviewer: Trish Earls/EVP
Date: April 20, 2001

Production #/yr												
Actual @7488 hours	At 8760 hours											
3,345,830.00	3,914,192.15	compound 14	Potential Emissions (tons/yr)	compound 16	Potential Emissions (tons/yr)	compound 17	Potential Emissions (tons/yr)	compound 18	Potential Emissions (tons/yr)	compound 20	Potential Emissions (tons/yr)	
Mixing & Milling	Total Method 25 Organics	2.30E-04	0.45	8.16E-05	0.16	4.44E-04	0.87	6.50E-05	0.13	7.52E-06	0.01	
Emission Factors	Total HAP's	4.24E-05	0.08	4.71E-06	0.01	1.40E-04	0.27	4.66E-05	0.09	6.67E-06	0.01	
(lb/lb rubber)	Total Particulate Matter	1.30E-04	0.25	3.17E-04	0.62	8.96E-05	0.18	1.92E-04	0.38	7.84E-04	1.53	
Extruder	Total Method 25 Organics	5.50E-05	0.11	1.96E-05	0.04	1.06E-04	0.21	1.56E-05	0.03	1.80E-06	0.00	
Emission Factors	Total Particulate Matter	1.57E-08	0.00	3.82E-08	0.00	1.08E-08	0.00	2.31E-08	0.00	9.47E-08	0.00	
(lb/lb rubber)	Total HAP's	2.27E-05	0.04	2.52E-06	0.00	7.52E-05	0.15	2.50E-05	0.05	3.57E-06	0.01	
Platen Press	Total Method 25 Organics	5.30E-04	1.04	8.08E-04	1.58	6.23E-03	12.19	1.98E-03	3.88	6.31E-04	1.23	
Emission Factors	Total HAP's	1.03E-03	2.02	6.37E-05	0.12	1.06E-03	2.07	9.11E-04	1.78	7.45E-05	0.15	
(lb/lb rubber)												
Total Emissions	Total Method 25 Organics		1.60		1.78		13.27		4.03		1.25	13.27
	Total Particulate Matter		0.25		0.62		0.18		0.38		1.53	1.53
	Total HAP's		2.14		0.14		2.50		1.92		0.17	2.50

Emission factors were obtained from the Rubber Manufacturer's Association which are included in the draft section 4.12 of US EPA's AP-42, June 1999.

Appendix A: Process Particulate Emissions

Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Plt ID: 023-00003
Reviewer: Trish Earls/EVP
Date: April 20, 2001

State Potential Emissions (tons/year)						
A. Baghouses						
Process	Baghouse ID	No. of Units	Grain Loading per Actual Cubic Foot of Outlet Air	Air Flow (acfm)	Control Efficiency	Total (tons/yr)
Rubber Molding Sandblasting Unit	BH-2	1	0.00011	1600.0	99.50%	1.26
Tooling, Machining Sandblasting Unit	BH-3	1	0.00019	90.0	99.70%	0.22
Total Emissions Based on Rated Capacity at 8,760 Hours/Year						1.48
Federal Potential Emissions (tons/year)						
A. Baghouses						
Process	Baghouse ID	No. of Units	Grain Loading per Actual Cubic Foot of Outlet Air	Air Flow (acfm)	Control Efficiency	Total (tons/yr)
Rubber Molding Sandblasting Unit	BH-2	1	0.00011	1600.0	99.50%	0.01
Tooling, Machining Sandblasting Unit	BH-3	1	0.00019	90.0	99.70%	0.00
Total Emissions Based on Rated Capacity at 8,760 Hours/Year and source controls						0.01

Methodology:**State Potential (uncontrolled):**

Baghouse (tons/yr) = No. Units * Loading (grains/acf) * Air Flow (acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs * 1/(1-Control Efficiency)

Federal Potential (controlled):

Baghouse (tons/yr) = No. Units * Loading (grains/acf) * Air Flow (acfm) * 1 lb/7,000 grains * 60 min/hr * 8760 hr/yr * 1 ton/2,000 lbs * 1/(1-Control Efficiency)

Emission Calculations for BH1, BH4 and BH5

Baghouse ID	Particulate Matter Collected (lb/hr)	Collection Efficiency (%)	Potential Emissions (tons/yr)	Controlled Emissions (tons/yr)
BH-1	1.41	92.00%	6.71	0.54
BH-4	0.37	99.00%	1.62	0.02
BH-5	0.73	99.00%	3.24	0.03
Total			11.58	0.59

Appendix A: Welding

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Company Name: Federal Mogul Corporation
Address City IN Zip: 2845 West State Road 28, Frankfort, IN 46041
Minor Source Operating Permit: 023-12906
Plt ID: 023-00003
Reviewer: Trish Earls/EVP
Date: April 20, 2001

PROCESS	Max. electrode consumption (lbs/hr)		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING											
Stick Welding (Carbon Steel)	0.018		0.037	0.003			0.0007	0.0001	0.0000	0.0000	5.4E-05
Tungsten Inert Gas (TIG)(carbon steel)	0.031		0.0055	0.0005			0.0002	0.0000	0.0000	0.0000	1.6E-05
FLAME CUTTING	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPS (lb/hr)
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	0.375	0.4	0.1622	0.0005	0.0001	0.0003	0.0015	0.0000	0.0000	0.0000	8.1E-06
EMISSION TOTALS							PM = PM10	Mn	Ni	Cr	Total HAPS
Potential Emissions lbs/hr							0.0023	0.0001	0.0000	0.0000	7.76E-05
Potential Emissions lbs/day							0.0551	0.0018	0.0000	0.0001	1.86E-03
Potential Emissions tons/year							0.0101	3.24E-04	3.94E-06	1.18E-05	3.40E-04

METHODOLOGY

*Emission Factors are default values for carbon steel.

Welding emissions, lb/hr: (max. lbs of electrode used/hr)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.